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S/N 10/649012

PATENTIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Noboru TANIGUCHI	Examiner:	Surekha VATHYAM
Serial No.:	10/649012	Group Art Unit:	1753
Filed:	August 27, 2003	Docket No.:	10873.0812USC1
Title:	HYDROCARBON SENSOR AND METHOD FOR PRODUCING THE SAME		

DECLARATION UNDER 37 CFR § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

I, Noboru Taniguchi hereby declare as follows:

I graduated from Osaka University in March of 1987 with a master's degree in School of Engineering and joined Matsushita Electric Industrial Co., Ltd. in April 1987. Since then, I have been taking part in the development of devices employing inorganic chemistry and electro chemistry such as electrochemical fuel-cells, solid oxide electrolyte, and hydrocarbon sensor, as well as the system development for such devices. Thus, I am very familiar with the art relating to the mixed ionic conductor.

EXPERIMENTAL DATA

1. Date of Experiments: October 10, 2007
2. Site for Experiments: Living Environment Development Center of Matsushita Electric Industrial Co., Ltd.
3. Person who conducted Experiments: Noboru Taniguchi,
Matsushita Electric Industrial Co., Ltd.
4. Object of Experiments: To determine the composition ratios
 $\text{AuAl}_2/\text{Au}/\text{Al}(\text{Al}+\text{Al}_2\text{O}_3)/\text{Au}_m\text{Al}_n$ and AuAl_2/Au of an
electrode of the prior art at issue, namely EP 1041380 A2.
5. Methods of Experiments and Results:

5.1 Production of Samples

The experiments were carried out exactly as described in the embodiments of EP 1041380 A2. The produced samples were exactly the same as those actually described in EP 1041380 A2.

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A: Compositions obtained from a result of X-ray diffraction (FIG. 3) of a layer formed of an Au film and an Al film covering the Au film, which were fired (Embodiment 1, [0049-0057], column 11).

B: Compositions obtained from a result of X-ray diffraction (FIG. 4) of a layer formed of an Au paste mixed with an Al paste in a volume of equal ratio, which was fired (Embodiment 2, [0058-0062], column 11).

C: Compositions obtained from a result of X-ray diffraction (FIG. 8) of a layer formed of an Au paste mixed with an Al paste in a volume of 1:2, which was fired (Embodiment 3, [0063-0068], column 13).

5.2 Calculation of composite ratios

The above described samples were calculated for ratios $\text{AuAl}_2/\text{Au}/\text{Al}(\text{Al}+\text{Al}_2\text{O}_3)/\text{Au}_n\text{Al}_m$ and AuAl_2/Au by using analytic values of the X-ray diffraction data shown in FIGS. 3, 4, and 8.

Table 1

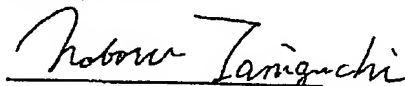
	$\text{AuAl}_2 / \text{Au} / \text{Al}(\text{Al}+\text{Al}_2\text{O}_3) / \text{Au}_n\text{Al}_m$					AuAl_2/Au	
A	32	/	4	/	52(46+6)	/ 12	89 / 11
B	48	/	14	/	36(31+5)	/ 2	77 / 23
C	36	/	17	/	30(26+4)	/ 17	68 / 32

It should be noted that the above values were obtained from previous experimental data, and substantially similar values were obtained when the same experiments were conducted.

From the above, it is apparent that the compositions in the document EP 1041380A2 fail to satisfy $a+2b$; $\text{Al}\% \leq 7\%$ as claimed by the present application.

I declare under the penalty of perjury of the laws of the United States of America that the foregoing is true and correct to the best of my information and belief.

Signed this 1 of November, 2007, at Osaka, JAPAN


Noboru Taniguchi